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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,511	12/18/2000	Christopher Stobart	PHD 99,184	3117

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P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
MILLS, DONALD L	

ART UNIT	PAPER NUMBER
2662	4

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/739,511	STOBART, CHRISTOPHER	
	Examiner	Art Unit	
	Donald L Mills	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
(e) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(f) BRIEF SUMMARY OF THE INVENTION.
(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(h) DETAILED DESCRIPTION OF THE INVENTION.
(i) CLAIM OR CLAIMS (commencing on a separate sheet).
(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

2. Claims 1-7 are objected to because of the following informalities:

Regarding claim 1, the claim does not define a clear preamble, transition, and body.

Regarding claims 1-7, "configured" and "suitable" do not clearly express whether the relevant function is actually achieved. Appropriate correction is required.

3. Claim 7 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim 7 has not been further treated on the merits.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, the claim recites the limitation "said regular transmission" in line 18. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Chieu et al. (US 5,515,366), hereinafter referred to as Chieu.

Regarding claim 1, Chieu discloses a method for direct communication in a TDMA radio communication system, which comprises:

The master unit including transmission means for transmitting a synchronization signal in fixed time slots and the slave units including respective receiving means for receiving and processing the synchronization signals transmitted by the master unit (Referring to Figure 3A, the base station **2** transmits in time slot S a synchronization and exchange of identification and control data to the portable units **4**, inherently utilizes by the portable units **4** for synchronization. See column 4, lines 55-60.)

The receiving means of the slave units being configured in such a manner that in fixed time slots which are not used for transmission of synchronization signals they are ready to receive or that in fixed time slots they are ready to receive with a setting which does not allow the reception of signals from the master unit (Referring to Figure 5A, in step **110**, listens for an acknowledgement packet AP transmitted in the base station channel during a second predetermined period of time, Tpr. See column 6, lines 50-53.)

The slave units also including transmission means which are suitable to use one of the time slots in which the receiving means of the slave units are ready to receive, but reception of signals from the master unit is not enabled, in order to transmit signals for initiating a communication between themselves (Referring to Figure 5A, in step **108** the primary portable unit transmits in the base station channel a calling packet CP during a first predetermined period of time, TPS, inherently during the period of time when reception of signals from the master unit

is not enabled, for establishing direct communication between the portable units. See column 6, lines 47-49.)

Regarding claim 2, Chieu discloses *the master unit is configured in such a manner that its transmission means transmit the synchronization signal at regular intervals and regularly interrupt said regular transmission again* (Referring to Figure 3A, time slot S, comprising synchronization information, is transmitted at regular intervals with a pause between intervals (Ts-Tps and Tr-Tpr.) *and that the receiving means of the slave units are configured in such a manner that during this regular interruption they are ready to receive a signal for initiating a communication with another slave unit of the same master unit* (Referring to Figure 5A, in step **110**, listens for an acknowledgement packet AP transmitted in the base station channel during a second predetermined period of time, Tpr, for establishing direct communication between the portable units of the same base station. See column 6, lines 50-53.)

Regarding claim 9, Chieu discloses a method for direct communication in a TDMA radio communication system, which comprises:

Transmission of a synchronization signal by the master unit in fixed time slots, which synchronization signal is received by the slave units (Referring to Figure 3A, the base station **2** transmits in time slot S a synchronization and exchange of identification and control data to the portable units **4**, inherently utilizes by the portable units **4** for synchronization. See column 4, lines 55-60.)

Switching the slave units so as to be ready to receive in fixed time slots in such a manner that it is impossible to receive signals from the master unit (Referring to Figure 5A, in step **110**, listens for an acknowledgement packet AP transmitted in the base station channel during a

second predetermined period of time, Tpr, inherently impossible to receive signals from the base station during this period. See column 6, lines 50-53.)

Enabling the slave units to transmit a signal during such a time slot in conformity with step which signal can be received by the other slave units during the relevant time slot/Enabling the slave units to establish direct communication between themselves upon reception of a signal transmitted by a first slave unit in conformity with step c by a second slave unit during a time slot in conformity with step b (Referring to Figure 5A, in step **108** the primary portable unit transmits in the base station channel a calling packet CP during a first predetermined period of time, TPS, inherently during the period of time when reception of signals from the master unit is not enabled, for establishing direct communication between the portable units. See column 6, lines 47-49.)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 3, 6/1-3, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chieu et al. (US 5,515,366), hereinafter referred to as Chieu, in view of Magana (US 5,956,326).

Regarding claim 3 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu does not disclose *the slave units are configured in such a manner that at fixed intervals during a time slot which is used for*

transmission of synchronization signals by the master unit they are ready to receive at a frequency other than the frequency used by the master unit.

Magana teaches a first carrier channel for transmission, comprising transmit control bit 4, and a different, second carrier channel for receptions, (See Figure 3, column 6, lines 24-25.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the FDD/TDD system of Magana in the method of Chieu. One of ordinary skill in the art would have been motivated to do so in order to provide an improved system and method for radio frequency communication which is low cost and requires less spectrum as taught by Magana (See column 2, lines 50-52.)

Regarding claim 6 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu does not disclose *the transmission and receiving means of the slave units are suitable to establish, after the initiation of the communication, between themselves a normal TDD connection with a frequency or with a code of an FHSS or a DSSS other than the frequency or code used by the master unit for the transmission of the synchronization signal.*

Magana teaches a first carrier channel for transmission, comprising transmit control bit 4, and a different, second carrier channel for receptions, (See Figure 3, column 6, lines 24-25.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the FDD/TDD system of Magana in the method of Chieu. One of ordinary skill in the art would have been motivated to do so in order to provide an improved system and method for radio frequency communication which is low cost and requires less spectrum as taught by Magana (See column 2, lines 50-52.)

Regarding claim 8 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu further discloses *the master unit is a base station and the slave units are handsets* (Referring to Figure 3A, a TDMA radio communication system utilizes a base station **2** and portable units **4**. See column 4, lines 39-40.) Chieu does not disclose *the system is a cordless communication system, notably a 902-928 MHz ISM band system.*

Magana teaches a cordless telephone system with reception and transmission at about 904 MHz and 925 MHz (See column 11, lines 11-16.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the FDD/TDD system of Magana in the method of Chieu. One of ordinary skill in the art would have been motivated to do so in order to provide an improved system and method for radio frequency communication which is low cost and requires less spectrum as taught by Magana (See column 2, lines 50-52.)

10. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chieu et al. (US 5,515,366), hereinafter referred to as Chieu, in view of Miyake et al. (US 5,903,618), hereinafter referred to as Miyake.

Regarding claim 4 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu does not disclose *the transmission means of the master unit are configured in such a manner that they utilize an FHSS code for the transmission of the synchronization and that the receiving means of the slave units are configured in such a manner that they normally receive with the same FHSS code, but in*

fixed time slots with a different FHSS code which can be used to initiate a communication with another slave unit.

Miyake teaches a two-way communication between two terminals through the base stations and peer-to-peer communication utilizing spread spectrum frequency hopping system where different frequency hopping rates are used, comprising synchronization information (See column 5, lines 54-64.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement spread spectrum frequency hopping method of Miyake in the system of Chieu. One of ordinary skill in the art would have been motivated to do so in order to provide a communication system which is more resistant to interference as taught by Miyake (See column 4, lines 57-60.)

Regarding claim 5 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu does not disclose *the transmission means of the master unit are configured in such a manner that they utilize a DSSS code for the transmission of the synchronization signals and that the receiving means of the slave units are configured in such a manner that they normally receive with the same DSSS code, but in fixed time slots with a different DSSS code which can be used to initiate a communication with another slave unit.*

Miyake teaches a two-way communication between two terminals through the base stations and peer-to-peer communication utilizing spread spectrum frequency hopping system where different frequency hopping rates are used, comprising synchronization information (See

column 5, lines 54-64.) Miyake further teaches that one can use the direct spreading system as well (See column 5, lines 17-18.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement direct spreading method of Miyake in the system of Chieu. One of ordinary skill in the art would have been motivated to do so in order to provide a communication system which is more resistant to interference as taught by Miyake (See column 4, lines 57-60.)

11. Claims 6/4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chieu et al. (US 5,515,366), hereinafter referred to as Chieu, in view of Magana (US 5,956,326) further in view of Miyake et al. (US 5,903,618), hereinafter referred to as Miyake.

Regarding claim 6 as explained above in the rejection statement of claim 1, Chieu discloses all of the claim limitations of claim 1 (parent claim.) Chieu does not disclose *the transmission and receiving means of the slave units are suitable to establish, after the initiation of the communication, between themselves a normal TDD connection with a frequency or with a code of an FHSS or a DSSS other than the frequency or code used by the master unit for the transmission of the synchronization signal.*

Magana teaches a first carrier channel for transmission, comprising transmit control bit 4, and a different, second carrier channel for receptions, (See Figure 3, column 6, lines 24-25.) Miyake teaches a two-way communication between two terminals through the base stations and peer-to-peer communication utilizing spread spectrum frequency hopping system where different frequency hopping rates are used, comprising synchronization information (See column 5, lines 54-64.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the FDD/TDD system of Magana in the method of Chieu utilizing the spread spectrum frequency hopping system of Miyake. One of ordinary skill in the art would have been motivated to do so in order to provide an improved system and method for radio frequency communication which is low cost and requires less spectrum as taught by Magana (See column 2, lines 50-52.)

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 703-305-7869. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills
March 30, 2004

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600